

IN THE CLAIMS

Amend Claims 11, 14, and 25 as follows:

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11. (Once Amended) A process as recited in claim 10, wherein the source gas is selected from the group consisting of aluminum trimethane, titanium tetramethane, a vaporized tantalum in the form of an organometallic compound, trimethyl aluminum hydrate, a Ru metalorganic precursor, and dimethyl aluminum hydrate.

a²

14. (Once Amended) A process for creating a barrier layer on a semiconductor substrate comprising:

forming a discrete region in the semiconductor substrate;

exposing the surface of the discrete region to ozone gas and to a source gas selected from the group consisting of aluminum trimethane, titanium tetramethane, a vaporized tantalum in the form of an organometallic compound, trimethyl aluminum hydrate, a Ru metalorganic precursor, and dimethyl aluminum hydrate to react the source gas with the ozone gas and deposit from said reaction a barrier layer of metal oxide film on the surface of the discrete region.

a³

25. (Once Amended) A process as recited in claim 23, wherein the source gas is selected from the group consisting of aluminum trimethane, titanium tetramethane, a vaporized tantalum in the form of an organometallic compound, trimethyl aluminum hydrate, a Ru metalorganic precursor, and dimethyl aluminum hydrate.

Add new Claims 26-30 as follows:

04 26. (New) A deposition method comprising:

providing a substrate; and

depositing upon the substrate a metal oxide formed while reacting source and oxidizing gases such that the metal in the metal oxide is oxidized prior to deposition.

27. (New) The deposition method as defined in Claim 26, wherein the substrate:

is composed of semiconductive material;

has an electrically active region therein; and

has a surface thereon a portion of which is also a surface on the electrically active region that is in contact with the metal oxide.

28. (New) The deposition method as defined in Claim 26, wherein depositing a metal oxide upon the substrate is performed in a chamber at a pressure in the range from about 0.1 torr to about 1 torr.

29. (New) The deposition method as defined in Claim 26, wherein said source and oxidizing gases includes a source gas selected from the group consisting of aluminum trimethane, titanium tetramethane, a vaporized tantalum in the form of an organometallic compound, trimethyl aluminum hydrate, a Ru metalorganic precursor, and dimethyl aluminum hydrate.

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30. (New) A deposition method comprising:

providing a semiconductor substrate having a top surface and an electrically active region extending from the top surface into the semiconductor substrate; and

depositing upon the electrically active region, in a chamber at a pressure in the range from about 0.1 torr to about 1 torr, a metal oxide that is formed while reacting a source gas and an oxidizing gas such that the metal in the metal oxide is oxidized prior to deposition, said metal oxide being deposited using a source gas selected from the group consisting of aluminum trimethane, titanium tetramethane, a vaporized tantalum in the form of an organometallic compound, trimethyl aluminum hydrate, a Ru metalorganic precursor, and dimethyl aluminum hydrate.
